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Samuel H Dworetsky
AT & T Corp
Room 174
180 Park Avenue
Florham Park, NJ 07932

EXAMINER

MEW, KEVIN D

ART UNIT	PAPER NUMBER
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2664

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/599,947

Applicant(s)

KUNDAJE ET AL.

Examiner

Kevin Mew

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 55-59 is/are allowed.
- 6) ☒ Claim(s) 1-18, 21-31, 33, 34, 37, 38, 40-42, 44, 46-49, 51-54, 60, 62, 63 and 65 is/are rejected.
- 7) ☒ Claim(s) 19, 20, 32, 35, 36, 39, 43, 45, 50, 61, 64, 66-70 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/23/2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date 2. | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 46, 54** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

Claims 46, 54 recite the limitation "one of the group" in line 2 of each claim. It is unclear as to what "one of the group" refers to. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-14, 15-18, 21-30, 31, 33-34, 37-38, 40-42, 44, 47-49, 51-53, 60, 62-63, 65** are rejected under 35 U.S.C. 103(a) as being unpatentable over Albal (US Publication 2003/0185375).

Regarding claims 1, 11, Albal discloses an article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps (**computers which may be programmed to execute the operations of functions and the communication node can be carried out in the form of hardware components and circuit designs, software or computer programming or a combination thereof**, see lines 16-22, paragraph 0043, page 5) to perform a method for routing direct-dialed voice-band calls (**the caller can directly dial the phone number of the called party and the communication node or transport system can automatically route the call to the called party**, see lines 14-17, paragraph 0021, page 2 and element 54, Fig. 2), comprising:

receiving a direct-dialed voice-band call from a calling party telephone number (**the communication node receives direct dialed call from the caller**, see lines 14-17, paragraph 0021, page 2 and element 54, Fig. 2), the direct-dialed voice-band call being

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associated with a destination number (**the caller can directly dial the phone number of the called party**, see lines 14-17, paragraph 0021, page 2); and

automatically routing the direct-dialed voice-band call to be routed to the destination number (**the communication node then routes the call automatically to the called party**, see lines 14-17, paragraph 0021, page 2) if the calling party telephone number is registered (**when a user accesses the electronic network from a communication device registered with the system**, see lines 1-8, paragraph 0040, page 4, and lines 1-3, paragraph 0037, and elements 212, 220, Fig. 8) and if the destination number of the direct-dialed telephone call is accessible by the VOIP service (**the communication node then routes the call automatically to the called party using the phone number of the called party**, see lines 14-17, paragraph 0021, page 2).

Abal does not specifically disclose routing direct-dialed voice-band calls over an Internet protocol (IP) network and the service registered is a VOIP service. However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport system that converts speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the

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Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Regarding claims 2 & 12, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 1 and 11 above. Albal further discloses the method of claim 1 further comprising:

receiving a registration for the calling party's telephone number for the VOIP service prior to the calling party placing the direct-dialed telephone call (see lines 1-8, paragraph 0040, page 4).

Regarding claims 3 & 13, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 1 and 11 above. Albal further discloses the method of claim 2 further comprising: storing a VOIP service registration record for the calling party telephone number (user's home phone number, see lines 1-8, paragraph 0040, page 4).

Regarding claims 4 & 14, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 1 and 11 above. Albal further discloses the method of claim 2 further comprising:

storing an allowable destination list, which identifies the destination numbers accessible using the VOIP service, prior to the calling party placing the direct-dialed telephone call (a caller or subscriber can modify an address book stored in the electronic

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network 16 and the address book stores telephone numbers of the called parties, see lines 1-5, paragraph 0017, page 2).

Regarding claim 5, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 1 above. Albal further discloses the method of claim 1, wherein automatically routing the direct-dialed voice-band call to the destination number (see lines 14-17, paragraph 0021, page 2) as a voice-over-Internet protocol (VOIP) telephone call (see lines 9-12, paragraph 0060, page 6 and element 248, Fig. 8) if the calling party telephone number is registered for a VOIP service (see lines 1-8, paragraph 0040, page 4 and lines 1-3, paragraph 0037, and elements 212, 220, Fig. 8) and the destination number of the direct-dialed telephone call is accessible by the VOIP service (see lines 14-17, paragraph 0021, page 2) comprises:

determining if a VOIP service registration record for the calling party telephone number exists (see lines 1-8, paragraph 0040, page 4); and

if the VOIP service registration record for the calling party telephone number exists, determining if the destination number of the direct-dialed voice band call is accessible by the VOIP service (see lines 1-8, paragraph 0040, page 4).

Regarding claims 6 & 8, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 5 above. Albal further discloses the method of claim 5 further comprising:

if the calling party's telephone number is registered for the VOIP service and if the destination number of the direct-dialed voice-band call is accessible by the VOIP

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service, receiving an indication to route the direct-dialed voices band call over the IP network.

Abal does not specifically disclose receiving an indication to route the direct-dialed voice-band call over a circuit-switched public switched telephone network (PSTN) if the condition does not happen otherwise.

However, Abal discloses both an integrated network that comprises both a PSTN network and a VOIP network in the communication node. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the routing features of the communication node of Abal such that it would route the direct-dialed voice call over a PSTN network when rather a VOIP network when the user is not registered with the VOIP service nor the number destination number is not accessible by the VOIP service such as the integrated network taught by Abal. The motivation to do so is to allow users to make direct dialed calls uninterrupted over the circuit-switched PSTN network in case the VOIP network is not available to the caller because it would allow users to make calls to the called party without the nuisance of having call drops.

Regarding claim 7, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 6 above. Albal further discloses the method of claim 6 further comprising:

initiating a billing record for the direct-dialed voice-band call if the indication is to route the direct-dialed voice-band call over the IP network, wherein the billing record is associated with the calling party's telephone number (see lines 1-10, paragraph 0063, page 6).

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Regarding claim 9, Albal discloses the method of claim 8 further comprising: receiving notice of the direct-dialed voice-band call clearing (see lines 5-7, paragraph 0063, page 6).

Regarding claim 10, Albal discloses the method of claim 9 further comprising closing the billing record for the direct-dialed voice-band call (it is inherent that the billing record will be closed upon call clearing).

Regarding claims 15, 21 & 31, Albal discloses an article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to automatically provision and maintain a network system (**computers which may be programmed to execute the operations of functions and the communication node can be carried out in the form of hardware components and circuit designs, software or computer programming or a combination thereof**, see lines 16-22, paragraph 0043, page 5) to perform a method for automatically provisioning and maintaining a network system for routing direct-dialed voice-band calls from a calling party telephone number comprising:

receiving a service registration for the calling party telephone number (see lines 1-3, paragraph 0040, page 4);

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automatically generating at least one order record for the calling party telephone number (see lines 1-3, paragraph 0040, page 4; note that it is inherent that a record will be generated upon receipt of the service registration);

storing the at least one order record for the calling party telephone number **(database server unit stores user's home telephone number and personal account information required for the operation of the system, see lines 1-3, paragraph 0040, page 4 and lines 1-13, paragraph 0065, page 7);**

managing the billing interaction for a billed account between at least one calling party telephone number and a billed telephone number (see lines 1-5, paragraph 0063, page 6);

synchronizing changes made to the stored at least one order record for the calling party telephone number, between the network system and a billing system, due to calling party activations, disconnections and changes **(call control unit sends billing record data to the billing server unit, see lines 1-8, paragraph 0063, page 6);** and

processing at least one call detail record including at least a terminating access identification (ID) **(the billing server unit can use caller line identification CLI of the communication device to properly bill the user, see lines 9-10, paragraph 0063, page 6).**

Abal does not specifically disclose routing direct-dialed voice-band calls over an Internet protocol (IP) network and the service registered is a VOIP service. However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport

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system that converts speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Regarding claim 16, Albal discloses the method of claim 15 further comprising: updating the at least one order record to compensate for numbering plan changes.

Regarding claim 17, Albal discloses the method of claim 15, wherein generating each of the at least one order records for the calling party telephone number's VOIP service comprises:

generating a billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

generating a network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

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Regarding claim 18, Albal discloses the method of claim 15, wherein storing each of the at least one order records for the calling party telephone number's VOIP service comprises:

storing the billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

storing the network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

Regarding claims 22, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 21 above. Albal further discloses the method of claim 21 further comprising:

receiving a registration for the calling party's telephone number for the VOIP service prior to the calling party placing the direct-dialed telephone call (see lines 1-8, paragraph 0040, page 4).

Regarding claim 23, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 22 above. Albal further discloses the method of claim 22 further comprising: storing a VOIP service registration record for the calling party telephone number (user's home phone number, see lines 1-8, paragraph 0040, page 4).

Regarding claims 24, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 21 above. Albal further discloses the method of claim 21 further comprising:

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storing an allowable destination list, which identifies the destination numbers accessible using the VOIP service, prior to the calling party placing the direct-dialed telephone call (a caller or subscriber can modify an address book stored in the electronic network 16 and the address book stores telephone numbers of the called parties, see lines 1-5, paragraph 0017, page 2).

Regarding claim 25, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 21 above. Albal further discloses the method of claim 21, wherein automatically routing the direct-dialed voice-band call to the destination number (see lines 14-17, paragraph 0021, page 2) as a voice-over-Internet protocol (VOIP) telephone call (see lines 9-12, paragraph 0060, page 6 and element 248, Fig. 8) if the calling party telephone number is registered for a VOIP service (see lines 1-8, paragraph 0040, page 4 and lines 1-3, paragraph 0037, and elements 212, 220, Fig. 8) and the destination number of the direct-dialed telephone call is accessible by the VOIP service (see lines 14-17, paragraph 0021, page 2) comprises:

determining if a VOIP service registration record for the calling party telephone number exists (see lines 1-8, paragraph 0040, page 4); and

if the VOIP service registration record for the calling party telephone number exists, determining if the destination number of the direct-dialed voice band call is accessible by the VOIP service (see lines 1-8, paragraph 0040, page 4).

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Regarding claims 26 & 28, Abal discloses all the aspects of the claimed invention set forth in the rejection of claim 25 above. Abal further discloses the method of claim 25 further comprising:

if the calling party's telephone number is registered for the VOIP service and if the destination number of the direct-dialed voice-band call is accessible by the VOIP service, receiving an indication to route the direct-dialed voices band call over the IP network.

Abal does not specifically disclose receiving an indication to route the direct-dialed voice-band call over a circuit-switched public switched telephone network (PSTN) if the condition does not happen otherwise.

However, Abal discloses both an integrated network that comprises both a PSTN network and a VOIP network in the communication node. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the routing features of the communication node of Abal such that it would route the direct-dialed voice call over a PSTN network when rather a VOIP network when the user is not registered with the VOIP service nor the number destination number is not accessible by the VOIP service such as the integrated network taught by Abal. The motivation to do so is to allow users to make direct dialed calls uninterrupted over the circuit-switched PSTN network in case the VOIP network is not available to the caller because it would allow users to make calls to the called party without the nuisance of having call drops.

Regarding claim 27, Abal discloses the method of claim 26 further comprising initiating a billing record for the direct-dialed voice-band call if the indication is to route

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the direct-dialed voice-band call over the IP network, wherein the billing record is associated with the calling party's telephone number (see lines 1-10, paragraph 0063, page 6)..

Regarding claim 28, Albal discloses the method of claim 27 further comprising: routing the direct-dialed voice-band call to the IP network.

Regarding claim 29, Albal discloses the method of claim 28 further comprising: receiving notice of the direct-dialed voice-band call clearing (see lines 5-7, paragraph 0063, page 6).

Regarding claim 30, Albal discloses the method of claim 29 further comprising: closing the billing record for the direct-dialed voice-band call (it is inherent that the billing record will be closed upon call clearing).

Regarding claim 33, Albal discloses the article of manufacture of claim 31, wherein said generating each of the at least one order records for the calling party telephone number's VOIP service step further comprises:

generating a billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

generating a network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

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Regarding claim 34, Abal discloses the article of manufacture of claim 33, wherein said storing each of the at least one order records for the calling party telephone number's VOIP service step further comprises:

storing the billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

storing the network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

Regarding claims 37, 38, 41, Abal discloses an apparatus, comprising:

a first voice-band switch (communication node, see lines 14-17, paragraph 0021, page 2 and element 212, Fig. 8); and

a database coupled to the first voice-band switch (database server, see element 244, Fig. 8);

the first voice-band switch being configured to receive a direct-dialed voice-band call from a calling party's telephone number (see lines 14-17, paragraph 0021, page 2 and element 212, Fig. 8) and to automatically designate the direct-dialed voice-band call.

Abal does not specifically disclose automatically designate the direct-dialed voice-band call as a voice-over-Internet protocol (VOIP) call.

However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport system that converts speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

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Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Regarding claim 40, Albal discloses the apparatus of claim 38, wherein the first voice-band switch is further configured to open a billing record for the VOIP call (the communication node comprises a billing server unit to record billing record data, see lines 1-5, paragraph 0063, page 6).

Regarding claim 42, Albal discloses the apparatus of claim 37, wherein the first voice-band switch (communication node, see element 212, Fig. 8) is further configured to route the VOIP call to an IP gateway (Internet, see element 220, Fig. 8) for routing to an IP network, then to a destination IP gateway (Local Area Network, see element 240, Fig. 8) and then to a local access provider network (Paging Network, see element 211, Fig. 8) for routing to a destination number of the direct-dialed voice-band call (communication device 203 is interpreted as the destination while communication device 204 is the source, see element 203, Fig. 8).

Regarding claim 44, Albal discloses the apparatus of claim 37, further comprising a provisioning system configured to automatically provision and maintain the network apparatus (see Fig. 8).

Regarding claim 47, Albal discloses the apparatus of claim 38 further comprising: a second voice-band switch (VOIP unit, see lines 1-12, paragraph 0060, page 6) element 248, Fig. 8) coupled to the first voice-band switch (communication node, see element 212, Fig. 8), wherein the second voice-band switch is configured to receive the automatically routed direct-dialed voice-band call from the first voice-band switch, to forward the direct-dialed voice-band call for transmission as a VOIP call (see lines 1-12, paragraph 0060, page 6), and to open a billing record for the VOIP call (see lines 1-5, paragraph 0063, page 6).

Regarding claims 48 & 51, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 47 above, except fails to disclose if the database contains information that the calling party's telephone number is only registered for non-single-stage VOIP services and the destination number of the direct-dialed voice-band call is inaccessible by the VOIP service, to automatically designate the direct-dialed voice-band call as a circuit-switched call; and to automatically route the direct-dialed voice-band call for routing as a circuit-switched call if the direct-dialed voice-band call is designated as a circuit switched call.

However, Abal discloses both an integrated network that comprises both a PSTN network and a VOIP network in the communication node. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the routing features of the communication node of Abal such that it would route the direct-dialed voice call over a PSTN network when rather a VOIP network when the user is not registered with the VOIP service nor the number destination number is not accessible by the VOIP service such as the integrated network taught by Abal. The motivation to do so is to allow users to make direct dialed calls uninterrupted over the circuit-switched PSTN network in case the VOIP network is not available to the caller because it would allow users to make calls to the called party without the nuisance of having call drops.

Regarding claim 49, Abal discloses the apparatus of claim 47, wherein the second voice-band switch (VOIP unit, see lines 1-12, paragraph 0060, page 6 and element 248, Fig. 8) is further configured to route the direct-dialed call to an IP gateway for routing to an IP network (Internet, see element 220, Fig. 8), then to a destination IP gateway (Local Area Network, see element 240, Fig. 8) and then to a local access provider network (Paging Network, see element 211, Fig. 8) for routing to a destination number of the direct-dialed voice-band call (communication device 203 is interpreted as the destination while communication device 204 is the source, see element 203, Fig. 8).

Regarding claim 52, Abal discloses the apparatus of claim 48, further comprising:

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a provisioning system configured to automatically provision and maintain the network apparatus (see Fig. 8).

Regarding claim 53, Albal discloses the apparatus of claim 52, wherein the provisioning system comprises:

a network provisioning platform (NPP) (communication node, see element 212, Fig. 8) configured to receive a voice over-Internet protocol (VOIP) service registration for the calling party (see lines 1-3, paragraph 0040, page 4), to generate at least one order for the calling party's VOIP service, to store the at least one order for the calling party's VOIP service, to manage the interaction between a billed telephone number and a calling party's telephone number, and to update a plurality of calling party records to compensate for numbering plan changes;

a billing system coupled to the NPP, wherein the billing system is configured to maintain at least one calling party's account information (Billing Server, see lines 1-12, paragraph 0063, page 6), to maintain the VOIP service, and to create bills based on usage, a terminating access ID and a calling plan uniform service order code (USOC);
and

a customer service message system (CSMS) (call control unit, see element 236, Fig. 8) coupled to the NPP, wherein the CSMS is configured to synchronize between the first voice-band switch (communication node) and the database (database server unit, see element 244, Fig. 8) which is configured to store calling party telephone numbers that are registered for the VOIP service, USOC information and destination number information;

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wherein the NPP is further configured to synchronize changes in the network system and the billing system due to calling party activations, disconnections and changes (call control unit sends billing record data to the billing server unit, see lines 2-10, paragraph 0063, page 6).

In claim 60, Abal discloses a system for automatically provisioning and maintaining a network system for routing direct-dialed voice-band calls from a calling party telephone number comprising:

a network provisioning component (communication node, see element 212, Fig. 8) configured to receive a voice-over Internet protocol service registration for the calling party telephone number (see lines 1-3, paragraph 0040, page 4);

a billing system component coupled to the network provisioning component (communication node, see element 212, Fig. 8), wherein the billing system component is configured to maintain at least one calling party's account information (billing server unit records billing record data such as features accessed by the user, see lines 1-10, paragraph 0063, page 6); and

a customer service message system (CSMS) component (the application server unit, see element 242, Fig. 8) coupled to the network provisioning component (communication node, see element 212, Fig. 8) wherein the CSMS component is configured to synchronize changes made to the stored at least one order record for the calling party telephone number (sends transactional information received from the user to the information sources), between at least one telecommunications switch (see switch 230, Fig. 8) and a database (database server unit, see element 244, Fig. 8), which stores

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calling party telephone numbers that are registered (user's home phone number), USOC information (user reference number) and destination number information (contact phone numbers, see lines 1-10, paragraph 0063, page 6);

wherein the network provisioning component is further configured to synchronize changes made to the stored at least one order record for the calling party telephone number, between at least one telecommunications switch and a database (call control unit sends billing record data to the billing server upon completion of a call by a user, see lines 1-10, paragraph 0063, page 6), which stores calling party telephone numbers that are registered (user's home phone number), USOC information (user reference number) and destination number information (contact phone numbers, see lines 1-10, paragraph 0063, page 6);

Abal does not specifically disclose routing direct-dialed voice-band calls over an Internet protocol (IP) network. However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses converting speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network. The motivation to do so is to allow users to make direct dialed calls over the Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Regarding claims 62 & 63, Abal discloses the system of claim 60 further comprising:

a first voice-band switch (communication node, see lines 14-17, paragraph 0021, page 2 and element 212, Fig. 8); and

a database coupled to the first voice-band switch (database server, see element 244, Fig. 8);

the first voice-band switch being configured to receive a direct-dialed voice-band call from a calling party's telephone number (see lines 14-17, paragraph 0021, page 2 and element 212, Fig. 8) and to automatically designate the direct-dialed voice-band call.

Abal does not specifically disclose automatically designate the direct-dialed voice-band call as a voice-over-Internet protocol (VOIP) call.

However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport system that converts speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the

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Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Regarding claim 65, Albal discloses the system of claim 62, wherein the first voice-band switch is further configured to open a billing record for the VOIP call (the communication node comprises a billing server unit to record billing record data, see lines 1-5, paragraph 0063, page 6).

Allowable Subject Matter

4. Claims 55-59 are allowed.
5. Claims 19-20, 32, 35-36, 39, 43, 45-46, 48, 50, 55, 61, 64, 66-70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 19, the method of claim 17, wherein updating each of the at least one order records to compensate for numbering plan changes comprises:

- updating the billing system order record; and
- updating the network order record.

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In claim 20, the method of claim 15, wherein synchronizing changes due to calling party activations, disconnections and changes between the network system and a billing system comprises:

ensuring for each calling party telephone number registered for the VOIP service that the billing system order record and network order record both reflect the same numbering plan changes, activations, disconnections and other changes.

In claim 32, the article of manufacture of claim 31 further comprising updating the at least one order record to compensate for numbering plan changes.

In claim 35, the article of manufacture of claim 34, wherein updating each of the 2 at least one order records to compensate for numbering plan changes step 3 further comprises:

updating the billing system order record; and
updating the network order record.

In claim 36, the article of manufacture of claim 34, wherein synchronizing changes due to calling party activations, disconnections and changes between the network system and a billing system step further comprises:

ensuring for each calling party telephone number registered for the VOIP service that the billing system order record and network order record both reflect the same numbering plan changes, activations, disconnections and other changes.

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In claim 39, the apparatus of claim 38, wherein the first voice-band switch is an electronic switching system (ESS) originating assist switch (OAS), the database is a universal subscriber data structure (USDS) and the first voice-band switch is communicatively linked to an IP gateway.

In claim 43, the apparatus of claim 37, wherein the first voice-band switch is further configured, if the database contains information that the calling party's telephone number is only registered for non-single-stage VOIP services or if the database contains information that the calling party's telephone number is registered for the single-stage VOIP service and the destination number of the direct-dialed voice-band call is inaccessible by the VOIP service, to automatically designate the direct-dialed voice-band call as a circuit-switched call; and to automatically route the direct-dialed voice-band call for routing as a circuit-switched call if the direct-dialed voice-band call is designated as a circuit switched call.

In claim 45, the apparatus of claim 44, wherein the provisioning system comprises:

a network provisioning platform (NPP) configured to receive a voice over-Internet protocol (VOIP) service registration for the calling party, to generate at least one order for the calling party's VOIP service, to store the at least one order for the calling party telephone number's VOIP service, to manage the interaction between a calling party's telephone number and a billed telephone number, and to update a plurality of service records to compensate for numbering plan changes;

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a billing system (Billing Server, see element 238, Fig. 8) coupled to the NPP, wherein the billing system is configured to maintain at least one calling party's account information (see lines 1-10, paragraph 0063, page 6), to maintain the VOIP service, and to create bills based on usage, a terminating access ID and a calling plan uniform service order code (USOC); and

a customer service message system (CSMS) coupled to the NPP, wherein the CSMS is configured to synchronize between the first voice-band switch and the database which is configured to store calling party telephone numbers that are registered for the VOIP service, USOC information and destination number information;

wherein the NPP is further configured to synchronize changes in the network system and the billing system due to calling party activations, disconnections and changes.

In claim 48, the apparatus of claim 47, wherein the first voice-band switch is further configured, if the database contains information that the calling party's telephone number is only registered for non-single-stage VOIP services or if the database contains information that the calling party's telephone number is registered for the single-stage VOIP service and the destination number of the direct-dialed voice-band call is inaccessible by the VOIP service, to automatically designate the direct-dialed voice-band call as a circuit-switched call; and to automatically route the direct-dialed voice-band call for routing as a circuit-switched call if the direct-dialed voice-band call is designated as a circuit switched call.

In claim 50, the apparatus of claim 47, wherein the first voice-band switch is an electronic switching system (ESS) originating assist switch (OAS), the second voice-band switch is an ESS handoff assist switch (HAS), the database is a universal subscriber data structure (USDS) and the second voice-band switch is communicatively linked to an IP gateway.

In claim 55, an apparatus, comprising:

an electronic switching system (ESS) originating assist switch (OAS), the OAS being configured to receive a direct-dialed voice-band call from a calling party's telephone number, the direct-dialed voice-band call being associated with a destination telephone number, to determine whether to route the direct dialed voice-band call over an Internet protocol (IP) network or a circuit switched network, and, if it is determined to route the direct-dialed voice-band call over the IP network, the OAS is configured to transmit the direct-dialed voice-band call to the IP network, or, if it is determined to continue to route the direct-dialed voice-band call over the circuit-switched network, the OAS is configured to transmit the direct-dialed voice-band call to the circuit-switched network; and

an universal subscriber data structure (USDS) coupled to the ESS OAS, the USDS being configured to store service information on a plurality of calling party telephone numbers, to store information on which destination telephone numbers are accessible using a voice-over-Internet protocol (VOIP) service, to receive the calling party's telephone number and the destination telephone number of the direct-dialed voice-band call from the OAS, to determine if the calling party's telephone number is registered

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for the VOIP service, and, if the calling party's telephone number is registered for the VOIP service, to determine if the destination telephone number is accessible using the VOIP service, and to return a partial routing instruction and service information to the OAS.

In claim 61, the system of claim 60, wherein the CSMS component is further configured to administer a country code field which is stored in the database.

In claim 64, the system of claim 63, wherein the first voice-band switch is an 2 electronic switching system (ESS) originating assist switch (OAS), the database is a universal subscriber data structure (USDS) and the first voice-band switch is communicatively linked to an IP gateway.

Regarding claim 69, the system of claim 65, wherein the first voice-band switch is an 2 electronic switching system (ESS) originating assist switch (OAS), the second voice-band switch is an ESS handoff assist switch (HAS) and the database is a universal subscriber data structure (USDS).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure with respect to method and system for customer selected direct dialed voice-over-Internet-protocol (VOIP).

US Patent 6,018,575 to Gross et al.

US Patent 6,081,518 to Bowman-Amuah

US Patent 5,918,019 to Valencia

US Patent 6,690,675 to Kung et al.

US Patent 6,731,630 to Schuster et al.

US Patent 6,292,478 to Farris

US Patent 6,233,234 to Curry et al.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 703-305-5300.

The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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